Innovation and Excellence of Teaching and Learning: Science and Society-Freshman Seminar at USTC

Prof. Yang Jinlong
Assistant President, USTC
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Basic Facts

Beijing 1958

Hefei 1970

BASIC FIGURES
- Founded by CAS;
- 1,916 academic staff, 630 full professors
  48 academicians of CAS/CAE
- 7,413 undergraduates; 14,592 graduate
  students; 3,885 PhD candidates;
- 18 Schools

INTERNATIONAL REPUTATION

TOP 3
In Mainland China
Best global universities
U.S. News Rankings 2018

TOP 3
in Mainland China
THE Asia University
rankings 2018

TOP 100
QS World University
Rankings 2017/18
Feature Statement of In-class Teaching

Solid and thorough foundation studies in **Math** and **Physics**

Science & Technology Research Competence

All-round training for innovative, practical and new specialties

**EDUCATE TOP TALENTS FOR RESEARCH IN FRONTIER SCIENCES AND ADVANCED ENGINEERING**
UNDERGRADUATE CREDIT DISTRIBUTION (160 credit)

- General Mandatory
- Discipline Fundamental
- Discipline Core
- Discipline Specialization
- Free Optional
- Undergraduate thesis

1 credit mandatory course: Science and Society - Freshman Seminars

27-47 credits Math and Physics Courses
Science and Society-Freshman Seminar Program was inaugurated in 2013 to provide freshmen with a unique learning experience through a combination of advanced plenary lectures in frontier sciences and early interaction with members of the faculty.

Course Information

- Compulsory course for freshmen, 1 credit;
- About 100 freshmen seminars offered every year;
- 20 students of maximum enrollment per seminar;
- Teaching schedule:
  - Autumn: plenary lectures
  - Spring: group projects (discussion, reading, lab, field trips)
Program Target

- Establish intellectual setting to cultivate science spirit;
- Starting point for the transition onto academic journey;
- Stimulate curiosity and enthusiasm for science and engineering study;
- Provide a unique experience of tutorial system;
- Enhance the sense of responsibility as future scientist and engineers;
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<tr>
<th>Panelist</th>
<th>Title</th>
<th>Lecture Topic</th>
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<td>Bao Xinhe</td>
<td>President, USTC</td>
<td>Our duties and responsibilities</td>
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<td>Pan Jianwei</td>
<td>Vice President, USTC</td>
<td>Quantum leap</td>
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<td>Wang Zhonglin</td>
<td>Regents Professor, Georgia Tech</td>
<td>Originality and innovation in science research</td>
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<td>Foreign Academician, CAS</td>
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<td>Chief Scientist, CAS BINV</td>
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<td>Cao Xuetao</td>
<td>President, Peking Union Medical College</td>
<td>Development of medical sciences in China</td>
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<td>Liu Qingfeng</td>
<td>Chairman, iFlytek</td>
<td>Artificial Intelligence+ Innovation and Entrepreneurs in New Ages</td>
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- 5-6 plenary lectures by CAS/CAE academicians, top scientists and alumni entrepreneurs per year
Group Projects

- A totality of 100 freshmen seminars supervised by over 100 distinguished faculty members (enlisted in Thousand Youth Talents Plan) from diverse disciplines

Project themes:

- Big Data and Public Transportation;
- Artificial Intelligence: Application & Present Situation
- Introduction To Mathematical Cryptography
- Building Science & Life of Human Beings
- Food Additives
- Fire Safety for Spacecraft
- Microbial fuel cells

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Students’ Feedback

Overview of Student’s Satisfaction: 2017

- Excellent: 28.36%
- Good: 17.47%
- Fair: 51.51%
- None: 2.67%

“Students’ Feedback

What are the main benefits?

- Promote the transition of the way of thinking from being middle school students to university students: 60%
- Improve the ability for individual thinking: 57%
- A good exercise of the ability for cooperation and team working: 72%
- Enhance the ability for independent study: 54%
- Cultivate the start-up capability and passion for science and technology research: 54%

“The Seminar is quite a rewarding experience for me. I have not only experienced the fun but also the rigorousness in doing research. My practical ability and communication skills are also enhanced in the process.”
Policy support

- Online evaluation survey
- Awards for Best Project Team and Best Supervisor
- Updated brochure and website marketing campaign

http://www.teach.ustc.edu.cn/special/ss
THANK YOU!